

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sukant Tripathy et al.
For: METHODS FOR POLYMERIZATION OF ELECTRONIC
AND PHOTONIC POLYMERS
Attorney's Docket No.: NA-1219-CIP 1

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR 1.56, 1.97 and 1.98, Applicants hereby make the documents noted on the accompanying substitutes for form 1449A/PTO documents of record in the above-identified application.

Copies of all documents listed, less document I (USP 6,569,651), were previously submitted to, or cited by, the Office in U.S. Patent Application Serial No. 09/994,998. Cited document I is enclosed herewith.

Applicants respectfully request that these documents be fully considered by the U.S. Patent and Trademark Office.

Applicants also respectfully request that a copy of Form PTO-1449 (five pages), as considered and initialed by the Examiner, be returned to the undersigned with the next communication.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No certification or fee is believed to be required.

It is believed that this disclosure complies with the requirements of 37 CFR 1.56, 1.97 and 1.98. If for any reason the Examiner considers otherwise, it is respectfully requested that the undersigned be contacted by the Examiner by telephone in order that any deficiencies may be expeditiously remedied.

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The enclosed documents may have markings thereon. Applicants are not presently aware of the source of those markings, and no significance is meant to be attached thereto.

6 FEB 04

Respectfully submitted,

Vincent J. Ranucci

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<p>Substitute for form 1449A/PTO</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p><i>(use as many sheets as necessary)</i></p>				Complete if Known	
Sheet	1	of	5	Application Number	
				Filing Date	
				First Named Inventor	Sukant Tripathy
				Group Art Unit	
				Examiner Name	
				Attorney Docket Number	NA-1219-CIP 1

U.S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

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¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Filing Date	
First Named Inventor	Sukant Tripathy
Group Art Unit	
Examiner Name	

Attorney Docket Number

NA-1219-CIP 1

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	J	Tzou, K. and Gregory, R.V., "A method to prepare soluble polyaniline salt solutions - <i>in situ</i> doping of PANI base with organic dopants in polar solvents," <i>Synthetic Metals</i> , 53:365-377 (1993).	
	K	Nguyen, M.T., et al., "Synthesis and properties of novel water-soluble conducting polyaniline copolymers," <i>Macromolecules</i> , 27:3625-3631 (1994).	
	L	Shannon, K. and Fernandez, J.E., "Preparation and properties of watersoluble, poly(styrenesulfonic acid) -doped polyaniline," <i>J. Chem. Soc., Chem. Comm.</i> , 643-644 (1994).	
	M	Tanaka, K., et al., "Doping effect of C60 on soluble polyaniline," <i>Synthetic Metals</i> , 66:193-196 (1994).	
	N	Ferreira, M., et al., "Molecular self-assembly of conjugated polyions: a new process for fabricating multilayer thin film heterostructures," <i>Thin Solid Films</i> , 244:806-809 (1994).	
	O	Ng, S.C., et al., "Poly(o-aminobenzylphosphonic acid): a novel water soluble, self-doped functionalized polyaniline," <i>J. Chem. Soc., Chem. Commun.</i> , 1327-1328 (1995).	
	P	Chen, S. and Hwang, G., "Synthesis of water-soluble self-acid-doped polyaniline," <i>J. Am. Chem. Soc.</i> , 116:7939-7940 (1994).	
	Q	Chen, S. and Hwang, G., "Water-soluble self-acid-doped conducting polyaniline: structure and properties," <i>J. Am. Chem. Soc.</i> , 117:10055- 10062 (1995).	
	R	Chan, H.S.O., et al., "A new water-soluble, self-doping conducting polyaniline from poly(o-aminobenzylphosphonic acid) and its sodium salts: synthesis and characterization," <i>J. Am. Chem. Soc.</i> , 117:8517-8523 (1995).	
	S	Dordick, J.S., et al., "Peroxidases depolymerize lignin in organic media but not in water," <i>Proc. Natl. Acad. Sci. USA</i> , 83:6255-6257 (1986).	
	T	Dordick, J.S., et al., "Polymerization of phenols catalyzed by peroxidase in nonaqueous media," <i>Biotechnology and Bioengineering</i> , 30:31-36 (1987).	

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	U	Kazandjian, R. Z., et al., "Enzymatic analyses in organic solvents," <i>Biotechnology and Bioengineering</i> , 28:417-421 (1986).				
	V	Klibanov, A.M. et al., "Enzymatic removal of toxic phenols and anilines from waste waters," <i>J. Appl. Biochem.</i> , 2:414-421 (1980).				
	W	Sakaki, J., et al., "Lipase-catalyzed asymmetric synthesis of 6-(3-chloro-2-hydroxypropyl)-1,3-dioxin-4-ones and their conversion to chiral 5,6-epoxyhexanoates," <i>Tetrahedron: Asymmetry</i> , 2:343-346 (1991).				
	X	Ikeda, R., et al., "Novel synthetic pathway to a poly (phenylene oxide) Laccase-catalyzed oxidative polymerization of syringic acid," <i>Macromolecules</i> , 29: 3053-3054 (1996).				
	Y	Akkara, J.A., et al., "Synthesis and characterization of polymers produced by horseradish peroxidase in dioxane," <i>J. Polymer Sci.: Part A: Polymer Chemistry</i> , 29:1561-1574 (1991).				
	Z	Klibanov, A.M. and Morris, E.D., "Horseradish peroxidase for the removal of carcinogenic aromatic amines from water," <i>Enzyme Microb. Technol.</i> , 3:119-122 (1981).				
	AA	Ayyagari, M.S., et al., "Controlled free-radical polymerization of phenol derivatives by enzyme-catalyzed reactions in organic solvents," <i>Macromolecules</i> , 28:5192-5197 (1995).				
	AB	Bruno, F.F., et al., "Enzymatic mediated synthesis of conjugated polymers at the Langmuir trough air-water interface," <i>Lanymuir</i> , 11:889-892 (1995).				
	AC	Lapkowski, M., "Electrochemical synthesis of linear polyaniline in aqueous solutions," <i>Synthetic Metals</i> , 35:169-182 (1990).				
	AD	March, J., in <i>Advanced Organic Chemistry - Reactions, Mechanisms, and Structure</i> (NY: Magraw-Hill Company), pp.667, 668 (1977).				
	AE	Shinohara, H., et al., "Enzyme microsensor for glucose with an electrochemically synthesized enzyme-polyaniline film," <i>Sensors and Actuators</i> , 13:79-86 (1988).				
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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

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	AF	Alva, K.S., et al., "Biochemical synthesis of water soluble polyanilines: poly(p-aminobenzoic acid) , " Macromol. Rapid Comm., 17:859.-863 (1996).	
	AG	Liao, Y., and Levon, K., "Solubilization of polyaniline in water by interpolymer complexation," Macromol. Rapid Commun., 16: 393-397 (1995) .	
	AH	Excerpts from "Plastics Engineering: Plastics - Saving Planet Earth," Volume LIII, Number 3 -(Toronto; March, 1997) .	
	AI	Westerweele, E., et al., "'Inverted' Polmer Light-Emitting Diodes on Cylindrical Metal Substrates," Advanced Materials, 7(9) :788-790 (1995) .	
	AJ	Ryu, K., et al., "Peroxidase-Catalyzed Polymerization of Phenols: Kinetics of p-Cresol Oxidation in Organic Media," American Chemical Society Symp. Ser., 389:141-157 (1989) .	
	AK	Alva, K.S., et al., "Novel Immobilization Techniques in the Fabrication of Efficient Electrochemical Biosensors," SPIE, 2716: 152-163 (1996) .	
	AL	Genies, E.M., et al., "A rechargeable battery of the type polyaniline/propylene carbonate -LiClO ₄ /Li-Al," Journal of Applied Electrochemistry 18:751-756 (1988) .	
	AM	Samuelson, L.A., et al., "Biologically Derived Conducting and Water Soluble Polyaniline," Macromolecules 31:4376-4378 (1998) .	
	AN	Liu, W., et al., "Enzymatically Synthesized Conducting PolyLyaniline," J. Am. Chem. Soc. 121:71-78 (1999) .	
	AO	Zhang, Q.M., et al., "Enzymatic Template Synthesis of Polyphenol," Materials Research Society 600:255-259 (2000) .	
	AP	Akkara, J.A., et al., "Hematin-Catalyzed Polymerization of Phenol Compounds," Macromolecules 33:2377-2382 (2000) .	

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Sheet	5	of	5	Attorney Docket Number	NA-1219-CIP 1

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	AQ	Dordick, J. S., "Enzymatic catalysis in monophasic organic solvents," <i>Enzyme Microbial Technology</i> 11: 194-211 (1989).			
	AR	Dunford, H.B., "Horseradish Peroxidase: Structure and Kinetic Properties," In <i>Peroxidases in Chemistry and Biology</i> Vol. II, J. Everse, et al., eds (FL: CRC Press, Inc.), Pp 2-17 (1991).			
	AS	Wudl, F., et al., "Poly(p-phenyleneamineimine): Synthesis and comparison to Polyaniline" <i>J. Am. Chern. Soc.</i> 109:3677-3684 (1987).			
	AT	Stafström, S., et al., "Polaron Lattice in Highly Conducting Polyaniline: Theoretical and Optical Studies," <i>The American Physical Society</i> 59:1464-1467 (1987).			
	AU	Shacklette, L.W., et al., "EMI Shielding of Intrinsically Conductive Polymers," In <i>Search of Excellence by Society of Plastic Engineers and Plastics Engineering</i> 665-667 (1991).			
	AV	Przybycien et al. "Electrochemical separation utilizing metalloporphyrins and metallophthalocyanines", 1998, <i>Chem Abstract</i> 128: 162418.			

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